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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,227	10/14/2005	Doukei Nagayasu	043890-0764	8982

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EXAMINER

HUGHES, DEANDRA M

ART UNIT	PAPER NUMBER
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3663

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/553,227

Applicant(s)

NAGAYASU, DOUKEI

Examiner

Deandra M. Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 2-6,9-11,23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,8,12-22,24 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/14/05; 8/11/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Claims 22, 24, and 26 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 20 and 21. See MPEP § 608.01(n). In the interest of compact prosecution, claims 22, 24, and 26 have been examined as best as they are understood.

Information Disclosure Statement

2. The information disclosure statements (IDSs) filed on 10/14/05 and 8/11/06 have been considered by the examiner and are found to be cumulative to the art of record.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7-8, 12-21, 22 (as best understood), and 26 (as best understood) are rejected under 35 U.S.C. 102(e) as being anticipated by Digonnet (US 7,064,889 filed 5/19/03).

With regard to claim 1, Digonnet discloses a light amplifying fiber comprising:

- a 1st waveguide (fig. 2c, #154) for transmitting excitation light;

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- a 2nd waveguide composed of a core (#152) containing a laser medium and generating laser light and a clad (#154) for transmitting the excitation light; and
- a 3rd waveguide including the 1st waveguide and the 2nd waveguide (waveguide in fig. 2C surrounding #152 and #154);
- wherein the refractive indices of the 1st waveguide, the clad of the 2nd waveguide, the core of the 2nd waveguide and the 3rd waveguide respectively denoted by n_1 , n_2 , n_3 , and n_4 satisfy a relation $n_1 < n_4 < n_2 < n_3$ (fig. 1C and col. 8, lines 35-45).

With regard to claim 7, the sheath #150 is the outer layer. It inherently has a lower refractive index than n_4 due to Snell's Law. Otherwise, it could not confine the light.

With regard to claim 8, the outer layer comprises glass (col. 9, line 4).

With regard to claim 12, figures 16A-16C disclose the refractive index matching.

With regard to claim 13, part of #154 has a linear shape.

With regard to claim 14, the core transmits at least one mode (col. 5, lines 30-35).

With regard to claim 15, the laser medium comprises a rare earth element (col. 8, lines 50-55).

With regard to claims 17, 22 (as best understood), and 26 (as best understood), the grating is the feedback means for the laser (col. 10, line 34).

With regard to claim 19-21, the 1st waveguide transmits the pump light (fig. 2c, #154; col. 10, lines 5-45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 24 (as best understood) is rejected under 35 U.S.C. 103(a) as being unpatentable over Digonnet in view of Dejneka (US 6,836,607 published 12/28/04).

Digonnet does not specifically disclose a semiconductor laser as an excitation source. However, Dejneka teaches that semiconductor lasers are conventional means of excitation (i.e. pumping; col. 1, lines 55-56). It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a semiconductor laser as a pump means for the advantage of effective power coupling.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Deandra M. Hughes
Primary Examiner
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